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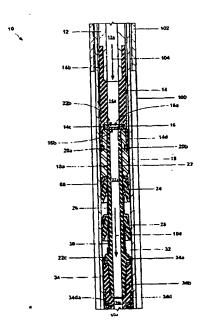
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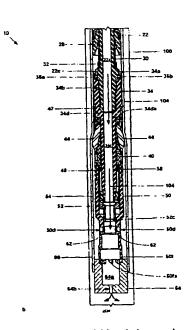
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[Continued on next page]

(54) Title: COLLAPSIBLE EXPANSION CONE





(57) Abstract: An apparatus (10) for radially expanding and plastically deforming an expandable tubular member (66) includes a collapsible cone (44).

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PCT/US02/36157

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| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched | | | | |
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| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | | | |
| Category * | Citation of document, with indication, where ap | | Relevant to claim No. | |
| Х | US 3,691,624 A (KINLEY) 19 September 1972 (19.09.1972), see entire document, especially Figs. 1-3 and cols. 3-4. | | 20, 23 | |
| A | US 3,631,926 A (YOUNG) 04 January 1972 (04.01.1972), see entire document, especially Fig. 1. | | 24-27 | |
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